DERWENT-ACC-NO: 1993-061726

DERWENT-WEEK: 200146

TITLE: Resin mouldings prodn. having good gas barrier properties - comprises forming a silicon oxide membrane on resin moulding surface on which is coated alcoholic soln. or resin emulsion and drying

PATENT-ASSIGNEE: MITSUBISHI PETROCHEMICAL CO LTD[MITP]

PRIORITY-DATA: 1991JP-0158712 (June 28, 1991)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 05009317 A	January 19, 1993	N/A	004	C08J 007/04
JP 3193071 B2	July 30, 2001	N/A	003	C08J 007/04

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
JP 05009317A	N/A	1991JP-0158712	June 28, 1991
JP 3193071B2	N/A	1991JP-0158712	June 28, 1991
JP 3193071B2	Previous Publ.	JP 5009317	N/A

INT-CL (IPC): B32B009/00, B32B027/04 , B65D065/42 , C08J007/04 , C08K003/36 , C23C014/10

ABSTRACTED-PUB-NO: JP 05009317A

BASIC-ABSTRACT:

Prodn. comprises forming a silicon oxide membrane on a resin moulding surface,
and coating thereon a water and/or alcohol soln. or an aq. emulsion of a resin
contg. SiO2 particles, followed by drying.

The resin moulding are e.g. PE, PP, nylon, polyesters, PS, PVC. etc., in the
form of film, containers, etc. Silicon oxide represented by SiOx (where X is
1.5 to 2.0) is coated on the resin moulding by means of physical deposition or
CVD. SiO2 is of a particle size of 50-200 A, and is mixed with a resin e.g.
PVA, acrylic resins, SBR lattices or PAc at a ratio of 20:80-80:20 on a solid
content basis, being applied to a thickness of 0.1-10 microns.

USE/ADVANTAGE - Method can provide resin mouldings with improved gas barrier
properties, which does not change even when the resin mouldings undergo
deformation.

In an example, a 12-micron thick PET film is provided with a 1500 A thick
membrane of SiO (1.5) by use of a vacuum deposition appts., and then a mixt. of
40 pts. wt. of a dispersion of 100 A sized SiO2 and 40 pts. wt. of aq.
ammonium soln. of a copolymer from acrylic acid and methacrylic acid is applied
thereon, followed by drying with hot air at 100 deg. C to form a 1 micron
thick film. The oxygen permeating rate is decreased from 100 cc/m2. atm. 24
hrs. to 1.

CHOSEN-DRAWING: Dwg.0/1

TITLE-TERMS: RESIN MOULD PRODUCE GAS BARRIER PROPERTIES COMPRISE FORMING
SILICON OXIDE MEMBRANE RESIN MOULD SURFACE COATING ALCOHOLIC
SOLUTION RESIN EMULSION DRY

ADDL-INDEXING-TERMS:

POLYSULPHONE POLYETHYLENE@ NYLON POLYESTER

DERWENT-CLASS: A35 A82 G02 P73 Q34

CPI-CODES: A07-B; A09-A; A11-B05D; A11-C04B2; A12-B08; G02-A05;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 1694U; 1740U

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:
Key Serials: 0009 0205 0209 0224 0229 0239 0248 0304 0306
0411 0418 0486 0487
0759 0787 1095 1283 1288 1319 1462 2007 2218 2318 2370 2386
2427 2430 2440 2482
2499 2504 2509 2513 2545 2654 2729 2774 3152 3159 3178 3255
Multipunch Codes: 014 03- 041 046 047 050 055 056 061 062 063
141 143 144 155
163 166 169 170 171 229 231 244 245 308 310 316 381 385 397
398 402 408 409 431
435 436 44& 445 466 472 476 477 540 57& 57- 575 596 688 721
014 03- 032 034 041
046 047 050 055 056 061 062 063 117 122 141 143 144 155 163
166 169 170 171 229
27& 308 310 316 381 385 397 398 402 408 409 431 435 436 44&
445 466 472 476 477
540 57& 57- 575 596 688 793

SECONDARY-ACC-NO:
CPI Secondary Accession Numbers: C1993-027877
Non-CPI Secondary Accession Numbers: N1993-046983

DERWENT-ACC-NO: 1993-020017

DERWENT-WEEK: 200176

TITLE: Oxygen@ indicators working under anhydrous conditions or light - comprising dye, inorganic acid, and organic cpd. contg. 3 or more carbon, prim. amine gp. and hydroxyl gp. e.g. 3-amino-1,2-propane diol

INVENTOR: HATAKEYAMA, H; INOUE, Y ; YOSHINO, I

PATENT-ASSIGNEE: MITSUBISHI GAS CHEM CO INC[MITN] , MITSUBISHI GAS KAGAKU KK[MITN]

PRIORITY-DATA: 1991JP-0202484 (July 17, 1991)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 524021 A2	January 20, 1993	E	016	G01N 031/22
JP 3230608 B2	November 19, 2001	N/A	012	G01N 031/00
TW 205591 A	May 11, 1993	N/A	000	G01N 031/22
JP 05209871 A	August 20, 1993	N/A	012	G01N 031/00
US 5358876 A	October 25, 1994	N/A	009	G01N 033/00
EP 524021 A3	February 2, 1994	N/A	000	G01N 031/22
EP 524021 B1	September 24, 1997	E	017	G01N 031/22
DE 69222376 E	October 30, 1997	N/A	000	G01N 031/22
KR 217009 B1	September 1, 1999	N/A	000	G01N 031/22

DESIGNATED-STATES: DE FR GB DE FR GB

CITED-DOCUMENTS: No-SR.Pub; 2.Jnl.Ref ; JP 61144568 ; JP 63187154 ; US 4169811 ; US 4349509

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
EP 524021A2	N/A	1992EP-0306597	July 17, 1992
JP 3230608B2	N/A	1992JP-0189359	July 16, 1992
JP 3230608B2	Previous Publ.	JP 5209871	N/A
TW 205591A	N/A	1992TW-0104881	June 22, 1992
JP 05209871A	N/A	1992JP-0189359	July 16, 1992
US 5358876A	CIP of	1992US-0914082	July 16, 1992
US 5358876A	N/A	1993US-0042252	April 2, 1993
EP 524021A3	N/A	1992EP-0306597	July 17, 1992
EP 524021B1	N/A	1992EP-0306597	July 17, 1992
DE 69222376E	N/A	1992DE-0622376	July 17, 1992
DE 69222376E	N/A	1992EP-0306597	July 17, 1992
DE 69222376E	Based on	EP 524021	N/A
KR 217009B1	N/A	1992KR-0012693	July 16, 1992

INT-CL (IPC): G01N031/00, G01N031/22 , G01N033/00

ABSTRACTED-PUB-NO: EP 524021A

BASIC-ABSTRACT:

A novel O2 indicator comprises: (a) a 3 or more C organic cpd. having at least one primary amine gp. and at least one OH gp.; (b) a thiazine and/or indigo dye; and opt. also (c) an (in)organic aicd, opt. chemically

bonded to (a).

(a) Is pref. 3-amino-1,2-propanediol, 3-amino-1- or 2-propanol, 4-amino-1 or 3-butanol, 5-amino-1- or 4-pentanol, 6-amino-1- or 5-hexanol, glucosamine, aminophenol, aminonapthol or 4-amino-1,2-butanediol, with those cpds. in which the primary amine gp. and OH gps. are on adjacent C atoms being esp. pref. Dye (b) is pref. Methylene Blue, Thicnine, Azure-B or-C, Neomethylene Blue, Brilliant Arizarine Blue, Lauth's Violet, Acid Red or Indigocarmine. (c) is e.g. H2SO4, HCl, HNO3, H3PO4, silicic acid, an aliphatic acid or a sulphonic acid.

USE/ADVANTAGE - The indicator can be printed on a substrate or can be in the form of a tablet and can be used to indicate presence of O2 in gaseous atmospheres for maintaining foods or electronic or metal parts. Unlike prior-art compsns., these indicators function sufficiently in moisture-free conditions or even when irradiated with light.

ABSTRACTED-PUB-NO: EP 524021B

EQUIVALENT-ABSTRACTS:

An oxygen indicator comprising (a) at least one organic compound having 3 or more carbon atoms and containing at least one primary amine group and at least one hydroxy group, and (b) at least one dyestuff selected from the group consisting of thiazine dyestuffs, indigo dyestuffs and mixtures thereof.

US 5358876A

Method of indicating O2 presence in atmos. comprises: contacting atmos. with an indicator consisting of: (a) aliphatic organic cpds(s). contg. 3C or more, prim. amine, and OH; and (b) thiazine and/or indigo dye(s)

which complex with
(a) in the presence of O2; and determining if the colour of the indicator
changes to indicate O2 presence.

Pref. indicator further contains (in)organic acid(s) opt. chemically bonded
together. Indicator can be printed on a substrate.

USE/ADVANTAGE - Used for maintaining foodstuffs, electronic parts, electrical
prods., or metallic parts. Functions under anhydrous conditions or when
exposed to light.

CHOSEN-DRAWING: Dwg.0/0 Dwg.0/0 Dwg.0/0

TITLE-TERMS: OXYGEN@ INDICATE WORK ANHYDROUS CONDITION LIGHT COMPRISE DYE
INORGANIC ACID ORGANIC COMPOUND CONTAIN MORE CARBON PRIMARY AMINE
GROUP HYDROXYL GROUP AMINO PROPANE DIOL

DERWENT-CLASS: E24 E36 J04 S03

CPI-CODES: E10-A07; E10-B01A2; E10-B01D; E10-B03A; E10-B03B; E25-E01;
J04-B01B;

EPI-CODES: S03-E09E;

CHEMICAL-CODES:
Chemical Indexing M3 *01*
Fragmentation Code
G001 G002 G011 G012 G013 G020 G021 G022 G029 G040
G100 G221 H1 H100 H141 H181 H4 H401 H402 H405
H441 H481 H482 H484 H8 L640 M280 M311 M312 M313
M314 M315 M316 M320 M321 M331 M332 M333 M340 M342
M343 M344 M383 M391 M414 M416 M510 M520 M530 M531
M540 M620 M782 M903 M904 N102 P832 Q224 Q505
Markush Compounds
199303-B4201-D 199303-B4201-M

Chemical Indexing M3 *02*
Fragmentation Code
C216 D022 E800 H1 H100 H101 H102 H103 H142 K0
L7 L730 M210 M211 M273 M280 M281 M282 M283 M320
M412 M511 M520 M530 M540 M782 M903 M904 N102 P832

Q224 Q505
Markush Compounds
199303-B4202-D 199303-B4202-M

Chemical Indexing M3 *03*
Fragmentation Code
C116 D022 D029 E800 H1 H103 H142 K0 L7 L730
M210 M211 M273 M283 M320 M412 M511 M520 M530 M540
M782 M903 M904 M910 N102 P832 Q224 Q505
Specfic Compounds
00226D 00226M

Chemical Indexing M3 *04*
Fragmentation Code
D013 D019 D022 D029 D602 D699 H7 H720 J5 J522
K0 K4 K431 K499 M1 M116 M280 M320 M412 M512
M520 M530 M540 M782 M903 M904 M910 N102 P832 Q224
Q505
Specfic Compounds
01461D 01461M

Chemical Indexing M3 *05*
Fragmentation Code
C108 C550 C810 M411 M750 M903 M904 M910 N102 Q224
Specfic Compounds
01779A

UNLINKED-DERWENT-REGISTRY-NUMBERS: 0226U; 1461U ; 1615U ; 1779U

SECONDARY-ACC-NO:
CPI Secondary Accession Numbers: C1993-009041
Non-CPI Secondary Accession Numbers: N1993-015371